

TEXTURIZING DEVICE FOR AIR TEXTURIZING YARNS

BACKGROUND OF THE INVENTION

5 The present invention relates to a texturizing device for air texturizing yarns.

 As is known, air texturizing of a synthetic yarn allows to start from a yarn "POY" (Pre - Oriented Yarn), to provide an "ATY" (Air-Jet Textured Yarn), including a plurality
10 of small "loops" providing the obtained yarn with a desired handle and physical aspect, which are typical of such a yarn.

 The machine for performing the texturizing process, can also process simultaneously two components, one called the core component and the other called the effect component.

15 The POY yarn or yarns are stretched or drawn between two heated godet rollers, which are moistened by water and subjected to a pressurized air flow by a specially designed "air-jet assembly".

 The main part of the machine is the so-called
20 "taslanization box", which holds both the moistening device and the air-jet assembly, as is schematically shown in figure 1.

 The air-jet assembly substantially comprise a ceramics material, which, however, has the drawback that it is covered by dirt at the yarn passage region, thereby generating
25 quality and waste problems, and compelling the operator to

frequently stop the machine for disassembling and cleaning the air-jet assembly, with a consequent decrease of the production yield.

SUMMARY OF THE INVENTION

5 Accordingly, the aim of the present invention is to provide such an air texturizing device, which overcomes the above mentioned drawbacks of the prior art.

 Within the scope of the above mentioned aim, a main object of the present invention is to provide such a
10 texturizing device which can also be applied to existing conventional yarn texturizing machines.

 Yet another object of the present invention is to provide such a texturizing device which is very simple construction wise and unexpensive, both from the production
15 standpoint and the installation standpoint, as well as in managing or controlling the texturizing machine, during the operation thereof.

 Yet another object of the present invention is to provide such a yarn texturizing device, which is very reliable
20 and safe in operation.

 According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a texturizing device for air texturizing yarns,
25 comprising a ceramics material body, through which is slidably

driven at least a yarn to be air texturized, characterized in that said ceramics material body is held in a rotary motion during the texturizing process.

BRIEF DESCRIPTION OF THE DRAWINGS

5 Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative, example, in the
10 accompanying drawings, where:

Figure 1 is a schematic perspective view of a "taslanization" box according to the prior art;

Figure 2 is a further perspective view, as partially broken away, of a "ceramics" element;

15 Figure 3 is a diagram illustrating an air texturizing process;

Figure 4 illustrates a simplified diagram of an air texturizing process;

Figure 5 is a perspective view of a taslanization
20 box including a texturizing device according to the present invention;

Figure 6 is an enlarged-scale view of the texturizing device shown in the preceding figure;

Figure 7 is a front view schematically illustrating
25 its gear elements of the texturizing device shown in the

preceding figures;

Figure 8 is a side view schematically illustrating the gear elements and motor of the device shown in the preceding figures; and

5 Figure 9 is a schematic view of the texturizing device comprising a nautical speedometer cable.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the number references of the above mentioned figures, the texturizing device according to the
10 present invention, which has been generally indicated by the reference number 1, can be used in a so-called "taslanization box" 2 of a texturizing machine for air texturizing yarns.

The device 1 comprises a ceramics body 3, therethrough are slidably driven one or more yarns 4 to be
15 texturized by air supplied through side ducts 5 to provide an air texturized yarn 6.

According to the invention, the ceramics material body 3, during the texturizing process, is held in a rotary motion, in order to prevent dirt from accumulating at the outer
20 region 7 of the texturized yarn.

The rotary movement of the ceramics material body 3 can be obtained, for example, by a rotary motor 9 adapted to rotate the ceramics material body 3 by means of a gear assembly or train 8, the gear elements of which are advantageously made
25 of a brass material.

Since the working environment of the texturizing device is a very aggressive one, because of the presence of nebulized water, finishing oils and pressurized air, it may be preferable to omit the motor and gear elements; thus, inside
5 the mentioned box is provided a speedometer cable 10 to provide rotary movement, adapted to transmit the rotary movement from the motor 9, arranged outside the box, to the ceramics material body 3.

Preferably, the mentioned cable passes through the
10 box wall by a gas-type of coupling 11.

It has been found that the invention fully achieves the intended aim and objects.

In fact, the invention provides an improved air texturizing device, the ceramics material body of which is held
15 continuously in rotation, thereby said body will provide a self-cleaning effect.

Accordingly, the texturizing device according to the invention allows to reduce the maintenance or servicing operations, while greatly improving the quality of the
20 texturized yarn made thereby.

In practicing the invention, the used materials, as well as the contingent size and shapes, can be any, according to requirements and the status of the art.